

NASA Technology Helps Inventor Clean Up

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Technological assistance from MSFC is helping an inventor clean up—literally.

Cecil Thornburg of Millerville, AL, operated the Mr. Clean Janitorial Service in nearby Sylacauga. One of his customers was a Winn-Dixie supermarket with a large parking lot. The lot needed to be swept and have trash picked up. Thornburg felt there should be a way to sweep the lot and collect the trash at the same time.

Working to develop this idea, Thornburg devised a vacuum-sweeper combination that worked, but needed improvement. The amateur inventor got the professional assistance he needed free of charge through

the Marshall Center's Technology Transfer Office (TTO).

Working from a technology assistance request submitted by Thornburg, the TTO's representative for Alabama, Benita Hayes, enlisted the help of three of the Marshall Center's mechanical engineers: Matt Marsh, Neill Myers and John R. "Rusty" Cowan. All work in the Propulsion Laboratory's Component Development Division.

After a visit to Thornburg's business to see and discuss the inventor's idea and design, the engineers used their expertise to suggest improvements. These included changing the shape of the vacuum unit's fan blades, introducing weight-saving and weight-redistribution refinements, and devising a way of guiding heavier trash, such as cans and bottles, to a point under the vacuum where suction was the greatest, thereby ensuring its collection.

"We're picking up nearly 100 percent of the litter we roll over," Thornburg said recently.

The new "Vac-n-Bag" design is pulled by a tractor and operates off of the tractor's engine. It has proven itself to be an efficient, cost-effective way of cleaning athletic fields, golf courses, parks and other grassy areas in addition to parking lots. The vacuum unit pulls the trash into the unit where it is shredded and bagged for disposal. "Vac-n-Bag" simultaneously mows the grass and collects the clippings, to boot.

The "Vac-n-Bag" is now being manufactured by the dozen new employees of Thornburg's new firm, the Burg Corp., in Sylacauga. It has been demonstrated for a number of municipal sanitation officials and for the Alabama Department of Transportation. Six "Vac-n-Bags" already have been sold and—at \$9,995 per unit—the new firm is cleaning up in more ways than one.

The work done to assist the new enterprise is part of a continuing NASA-wide effort to facilitate the private sector's accessing of research and development expertise derived by the nation's space Agency and its contractors. When appropriate, the resources of the entire 750-member Federal Laboratory Consortium can be accessed through the Marshall Center Technology Transfer Office.

Firms and individuals interested in receiving Federal technology transfer are encouraged to call 1-800-USA-NASA.

Sponsor: Office of Commercial Development and Technology Transfer

Biographical Sketch: Bob Lessels is the technical writer/editor (physical sciences) for the Technology Transfer Office at MSFC. A graduate of the University of Nebraska, he has been a professional journalist for the past 30 years. He joined NASA in 1986. ●



FIGURE 195.—The "Vac-n-Bag" unit is designed to be towed by a small tractor or truck, such as the one shown here.



FIGURE 196.—The “Vac-n-Bag” is demonstrated for officials of the State of Alabama Department of Transportation in Birmingham.